

What is Claimed is:

1. An enzyme-antibody complex, characterized in that, where one or more molecule(s) of enzyme into which a maleimide group or a thiol group is introduced is/are covalently conjugated to a carrier in which a thiol group when a maleimide group is introduced into the enzyme or a maleimide group when a thiol group is introduced into the enzyme via them, and a maleimide group is introduced into at least one amino group remaining in the above complex and is covalently conjugated to antibody or antibody fragment via thiol group obtained by reduction of them.

2. A complex according to claim 1 in which the carrier is a carrier having two or more amino groups.

3. A complex according to claim 1 or 2 in which the carrier is a peptide polymer having many basic amino acids or is a polysaccharide into which amino group is introduced.

4. A complex according to any of claims 1-3 in which the carrier has a molecular weight of 5,000-500,000 or, preferably, 10,000-300,000.

5. A complex according to any of claims 1-4 in which the carrier is polylysine or aminodextran.

6. A complex according to any of claims 1-5 in which the antibody fragment is  $F(ab')_2$  of the antibody.

7. A complex according to any of claims 1-6 in which the enzyme is at least one which is selected from horse radish peroxidase, alkaline phosphatase,  $\beta$ -galactosidase and glucose oxidase.

8. A kit for immunoassay characterized in containing the complex as mentioned in any of claims 1-7.

9. A method for the manufacture of an enzyme-antibody complex, characterized in that, said method comprises a step where enzyme into which a maleimide group or a thiol group is introduced is covalently conjugated to a carrier in which a thiol group when a maleimide group is introduced into the enzyme or a maleimide group when a thiol group is introduced into the enzyme via them, and a step where a maleimide group is introduced into at least one amino group remaining in the above complex and the reduced antibody or antibody fragment is covalently conjugated thereto via a thiol group.